City of Imperial Beach
POSITION DESCRIPTION

Title: **GIS Administrator**
Department: **Public Works**
Division: **Information Technology**

GENERAL PURPOSE
The GIS Administrator develops, implements, and maintains various databases of special information making up the enterprise GIS including client-side and server-based GIS applications. Additionally, the GIS Administrator organizes, coordinates, maintains, and upgrades system databases, software, and hardware. The GIS Systems Administrator ensures that data quality and information is consistently maintained and reliably accessible for departmental uses. The GIS Administrator regularly performs data conversions across different software applications, such as AutoCAD, Microstation, and ArcGIS. The GIS Administrator analyzes, modifies, and creates financial, engineering and GIS data sources. The responsibilities also include support for GASB 34 infrastructure reporting. The GIS Systems Administrator serves as the technical liaison with the information Technology Department for matters related to GIS database and software systems.

SUPERVISION RECEIVED
Works and receives general supervision and technical direction from the Public Works Director.

SUPERVISION EXERCISED
May exercise technical or functional supervision over technical staff or consultant contracts as assigned.

ESSENTIAL DUTIES AND RESPONSIBILITIES

Duties May Include, But Are Not Limited To The Following:

Under the direction of the Public Works Director, participates in the design, development, and implementation of information databases using GIS technology to meet various needs and functions of City departments. Maintains the enterprise database and uses relational database technologies to enhance access and responsiveness to client-side and server-based GIS applications. Configures and maintains intranet/internet web-based GIS applications. Develops automated programs to make routine database maintenance procedures more efficient. Transpose or update geospatial data from records maps, CAD drawings, county landbase maps, demographic models, and other source documents into the enterprise geodatabase. Designs and develops tools for displaying or retrieving GIS information from relational databases using modern database utilities and develops strategies for integrating GIS

with other existing City databases and applications. Configures and maintains intranet/internet web-based GIS applications.

Manage GIS servers and workstations by installing and troubleshooting hardware and software systems including the configuration of peripheral devices. Provides technical recommendations for computer hardware and GIS software purchases that includes projected equipment and supply requirements. Participates in the development and implementation of goals, objectives, policies, and priorities for the enterprise GIS. Maintain up-to-date knowledge of technology and GIS functionality. Attends and participates in local professional group meetings, online professional list serves and/or blogs; stays abreast of new trends and innovations in the field of GIS, database design, and related hardware and software.

Other Duties
- Comprehensive knowledge of geographic information systems (GIS) theory and practices, as well as with general principles and practices of enterprise information technology systems and structures.
- Familiarity with AutoCAD and Photoshop software.
- Geographic concepts of location, scale, resolution and generalization.
- Advanced ArcGIS skills
- Operation and maintenance of plotters, digitizers and scanners.
- Working with relational database systems and existing programs used for GIS and geodatabase processing.
- Administer system access and security to the enterprise GIS and related applications.
- Respond to inquiries regarding GIS application from end-users, developers, contractors, or other customers.
- Liaison with IT Manager and provide I/T tech support for troubleshooting computer and/or server issues for Public Works.
- Develop cartographic maps for departmental use, reports, council meetings, public education, etc...
- Perform field measurements and verify locations of existing structures/facilities within the boundaries of the City.
- Creating and analyzing complex land based data systems involving interdepartmental interactions.
- Requires familiarity with techniques of spatial analysis of areas and networks.
- Project management principles and techniques to manage system administration tasks and conversion./implementation projects.

PERIPHERAL DUTIES
Maintains a California "C" driver's license.

DESIRED MINIMUM QUALIFICATIONS

<u>**Education & Experience**</u>
Equivalent to a Bachelor's degree from an accredited college or university with major course work in geography, planning, landscape architecture, civil engineering, natural resources, or computer science including coursework in GIS.

At least five years of progressive experience designing, implementing, and maintaining complex geodatabases in a relational environment. Must also have substantial GIS project experience using ESRI ArcGIS software.

ABILITY TO
Ability to establish and maintain cooperative and effective working relationships with City employees, officials, and public.

Requires ability to compare, count, differentiate, measure and/or sort, assemble, copy, record and transcribe data and information. Must be able to classify, compute, tabulate, and categorize data. Must be able to classify compute, tabulate and categorize data. Must be able to advise and provide interpretation to others on how to apply policies, procedures, and standards to specific situations.

Needs to be able to use a variety of descriptive data and information such as; a variety of plans; resolutions; maps; reports; computer software operating manuals; procedures; guidelines; and routine correspondence.

 Must be able to communicate orally and in writing, clearly and concisely and in a non-technical manner with City personnel at all levels; consultants; vendors; and the general public.

Needs the ability to read, analyze, and interpret general business periodicals, professional journals, technical procedures, or governmental regulations. Must be able to write reports, business correspondence, and procedure manuals. Needs to effectively present information and respond to questions from groups of managers, clients, and the general public.

Ability to apply mathematics, including basic algebraic, plane geometric and trigonometric formulas. Must be able to demonstrate ability to calculate percentages,

fractions, decimals, volumes, ratios, and spatial relationships. Needs to be able to interpret basic, descriptive statistical reports.

Ability to be able to use functional reasoning and apply rational judgment when performing diversified work activities. Needs to be able to analyze data and information using established criteria in order to determine consequences and identify and select alternatives.

PHYSICAL DEMANDS
Needs to be able to operate equipment and machinery with some requiring rapid adjustments such as a computer keyboard and terminal, digitizer, plotter, blue line printers, photocopier, calculator, drafting instruments, and engineer and architect scale. Must be able to coordinate eyes, hands, feet and limbs in performing skilled movements such as rapid keyboard use. Needs to be able to recognize and identify and

Degrees of similarities or differences between characteristics of colors, textures, and forms associated with job-related objects, materials, and tasks.

Must be able to exert light physical effort in sedentary to light work, typically involving lifting, carrying, pushing and pulling of up to 30 pounds. Tasks may involve extended periods of time at a keyboard or workstation.

Needs to be able to perform frequent downward flexion of neck, side-to-side turning of the neck, fine finger dexterity and grasp to manipulate the keyboard, telephone, writing instruments, papers, books, manuals, and reports.

Job entails occasional walking, standing, bending, stooping, climbing, reaching at and above shoulders and twisting at the waist. On an infrequent basis, the incumbent must be able to squat and kneel.

Work may involve outside regular work hours may be required. Work environment is professional and team oriented. This position is impacted by urgent time deadlines due to various reporting and filing requirements.   There is some attention to detail. Additionally, there is a need to be able to shift attention before tasks are completed to be able to balance user demands, telephone and other interruptions.